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<150>  US60/436,785
<151>  2002-12-27

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<170>  PatentIn version 3.1

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Cys Gln Ala Thr Glu Ser Gly Gly Tyr Thr Cys Gly Pro Met Glu Pro
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      Cys His His Gly Ala Thr Cys Arg Asn Leu Ala Asp Arg Tyr Glu Cys
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      His Cys Pro Leu Gly Tyr Ala Gly Val Thr Cys Glu Met Glu Val Asp
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      Glu Cys Ala Ser Ala Pro Cys Leu His Gly Gly Ser Cys Leu Asp Gly
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25

      Val Gly Ser Phe Arg Cys Val Cys Ala Pro Gly Tyr Gly Gly Thr Arg
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      Gly Thr Cys His Asp Leu Val Asn Gly Phe Arg Cys Asp Cys Ala Gly
35        210             215             220

      Thr Gly Tyr Glu Gly Thr His Cys Glu Arg Glu Val Leu Glu Cys Ala
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      Ser Ala Pro Cys Glu His Asn Ala Ser Cys Leu Glu Gly Leu Gly Ser
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         Pro Pro Gly Thr His Gly Pro Phe Cys Gly Gln Asn Thr Thr Phe Ser
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         Val Met Ala Gly Ser Pro Ile Gln Ala Ser Val Pro Ala Gly Gly Pro
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 30

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 40      Ala Thr Leu Gln Ala Thr Leu Trp Ser Tyr Ser Thr Thr Val Leu Val
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 45                      485                 490                 495


         Glu Val Val Leu His Leu Ala Thr Leu Glu Leu Arg Leu Trp His Glu
                        500                 505                 510
 50

         Gly Cys Pro Ala Arg Leu Cys Val Ala Ser Gly Pro Val Ala Leu Ala
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 55
         Ser Thr Ala Ser Ala Thr Pro Leu Pro Ala Gly Ile Ser Ser Ala Gln
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10      Cys Glu Arg Arg Glu Gln Cys Arg Pro Leu Pro Cys Val His Gly Gly
                    580             585             590

        Ser Cys Val Asp Leu Trp Thr His Phe Arg Cys Asp Cys Ala Arg Pro
15              595             600             605

        His Arg Gly Pro Thr Cys Ala Asp Glu Ile Pro Ala Ala Thr Phe Gly
                610             615             620
20
        Leu Gly Gly Ala Pro Ser Ser Ala Ser Phe Leu Leu Gln Glu Leu Pro
        625             630             635                     640
25
        Gly Pro Asn Leu Thr Val Ser Phe Leu Leu Arg Thr Arg Glu Ser Ala
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30      Gly Leu Leu Leu Gln Phe Ala Asn Asp Ser Ala Ala Gly Leu Thr Val
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        Phe Leu Ser Glu Gly Arg Ile Arg Ala Glu Ala Pro Gly Ser Pro Ala
35              675             680             685

        Val Val Leu Pro Gly Arg Trp Asp Asp Gly Leu Arg His Leu Val Met
                690             695             700
40
        Leu Ser Phe Gly Pro Asp Gln Leu Gln Asp Leu Gly Gln His Val His
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        Val Gly Gly Arg Leu Leu Ala Ala Asp Ser Gln Pro Trp Gly Gly Pro
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50      Phe Arg Gly Cys Leu Gln Asp Leu Arg Leu Asp Gly Cys His Leu Pro
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        Gly Arg Gln Ser Trp Asn Leu Thr Ala Gly Cys Val Ser Glu Asp Met
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    Cys Glu Glu Val Pro Asp Gly Phe Val Cys Val Ala Glu Ala Thr Phe
20              835               840               845


    Arg Glu Gly Pro Pro Ala Ala Phe Ser Gly His Asn Ala Ser Ser Gly
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25  Arg Leu Leu Gly Gly Leu Ser Leu Ala Phe Arg Thr Arg Asp Ser Glu
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    Ala Trp Leu Leu Arg Ala Ala Ala Gly Ala Leu Glu Gly Val Trp Leu
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    Ala Val Arg Asn Gly Ser Leu Ala Gly Gly Val Arg Gly Gly His Gly
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35  Leu Pro Gly Ala Val Leu Pro Ile Pro Gly Pro Arg Val Ala Asp Gly
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40  Ala Trp His Arg Val Arg Leu Ala Met Glu Arg Pro Ala Ala Ala Thr
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45  Ser Arg Trp Leu Leu Trp Leu Asp Gly Ala Ala Thr Pro Val Ala Leu
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    Arg Gly Leu Ala Ser Asp Leu Gly Phe Leu Gln Gly Pro Gly Ala Val
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    Arg Ile Leu Leu Ala Glu Asn Phe Thr Gly Cys Leu Gly Arg His Phe
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     Cys Ala  Arg Gly Arg Cys His  Thr His Pro Asp Gly  Arg Phe Glu
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     Cys Arg  Cys Pro Pro Gly Phe  Gly Gly Pro Arg Cys  Arg Leu Pro
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20
     Val Pro  Ser Lys Glu Cys Ser  Leu Asn Val Thr Cys  Leu Asp Gly
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     Gly Val  Ser Glu Cys Ile Cys  Asn Ala Arg Phe Ser  Gly Gln Phe
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     Cys Glu  Val Ala Lys Gly Leu  Pro Leu Pro Leu Pro  Phe Pro Leu
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    50                  55                  60


Phe Gln Gly Pro Arg Cys Glu Leu Asp Ile Asp Glu Cys Ala Ser Arg
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Pro Cys His His Gly Ala Thr Cys Arg Asn Leu Ala Asp Arg Tyr Glu
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Cys His Cys Pro Leu Gly Tyr Ala Gly Val Thr Cys Glu Met Glu Val
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Asp Glu Cys Ala Ser Ala Pro Cys Leu His Gly Gly Ser Cys Leu Asp
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      Cys Leu Gln Arg Ser Asp Pro Ala Leu Tyr Gly Gly Val Gln Ala Ala
                    245             250             255
30

      Phe Pro Gly Ala Phe Ser Phe Arg His Ala Ala Gly Phe Leu Cys His
                    260             265             270
35

      Cys Pro Pro Gly Phe Glu Gly Pro Thr Cys Glu Glu Asp Val Asp Glu
                275             280             285

40    Cys Leu Ser Asp Pro Cys Leu His Gly Gly Thr Cys Ser Asp Thr Val
                290             295             300


      Ala Gly Tyr Ile Cys Arg Cys Pro Glu Thr Trp Gly Gly Arg Asp Cys
45    305             310             315             320


      Ser Val Gln Leu Thr Gly Cys Gln Gly His Thr Cys Pro Leu Ala Ala
                    325             330             335
50

      Thr Cys Ile Pro Ile Phe Glu Ser Gly Val His Ser Tyr Val Cys His
                    340             345             350
55

      Cys Pro Pro Gly Thr His Gly Pro Phe Cys Gly Gln Asn Thr Thr Phe
                355             360             365
```

```
         Ser Val Met Ala Gly Ser Pro Ile Gln Ala Ser Val Pro Ala Gly Gly
             370             375             380

  5

         Pro Leu Gly Leu Ala Leu Arg Phe Arg Thr Thr Leu Pro Ala Gly Thr
         385             390             395             400

 10

         Leu Ala Thr Arg Asn Asp Thr Lys Glu Ser Leu Glu Leu Ala Leu Val
                     405             410             415

 15      Ala Ala Thr Leu Gln Ala Thr Leu Trp Ser Tyr Ser Thr Thr Val Leu
                     420             425             430

         Val Leu Arg Leu Pro Asp Leu Ala Leu Asn Asp Gly His Trp His Gln
 20          435             440             445

         Val Glu Val Val Leu His Leu Ala Thr Leu Glu Leu Arg Leu Trp His
             450             455             460
 25

         Glu Gly Cys Pro Ala Arg Leu Cys Val Ala Ser Gly Pro Val Ala Leu
         465             470             475             480

 30
         Ala Ser Thr Ala Ser Ala Thr Pro Leu Pro Ala Gly Ile Ser Ser Ala
                     485             490             495

 35      Gln Leu Gly Asp Ala Thr Phe Ala Gly Cys Leu Gln Asp Val Arg Val
                 500             505             510

         Asp Gly His Leu Leu Leu Pro Glu Asp Leu Gly Glu Asn Val Leu Leu
 40          515             520             525

         Gly Cys Glu Arg Arg Glu Gln Cys Arg Pro Leu Pro Cys Val His Gly
             530             535             540
 45

         Gly Ser Cys Val Asp Leu Trp Thr His Phe Arg Cys Asp Cys Ala Arg
         545             550             555             560

 50
         Pro His Arg Gly Pro Thr Cys Ala Asp Glu Ile Pro Ala Ala Thr Phe
                     565             570             575

 55      Gly Leu Gly Gly Ala Pro Ser Ser Ala Ser Phe Leu Leu Gln Glu Leu
                     580             585             590
```

```
        Pro Gly Pro Asn Leu Thr Val Ser Phe Leu Leu Arg Thr Arg Glu Ser
                595                 600                 605

  5     Ala Gly Leu Leu Leu Gln Phe Ala Asn Asp Ser Ala Ala Gly Leu Thr
                610                 615                 620

 10     Val Phe Leu Ser Glu Gly Arg Ile Arg Ala Glu Ala Pro Gly Ser Pro
        625                 630                 635                 640

        Ala Val Val Leu Pro Gly Arg Trp Asp Asp Gly Leu Arg His Leu Val
                        645                 650                 655
 15

        Met Leu Ser Phe Gly Pro Asp Gln Leu Gln Asp Leu Gly Gln His Val
                660                 665                 670

 20
        His Val Gly Gly Arg Leu Leu Ala Ala Asp Ser Gln Pro Trp Gly Gly
                        675                 680                 685

 25     Pro Phe Arg Gly Cys Leu Gln Asp Leu Arg Leu Asp Gly Cys His Leu
                690                 695                 700

        Pro Phe Phe Pro Leu Pro Leu Asp Asn Ser Ser Gln Pro Ser Glu Leu
 30     705                 710                 715                 720

        Gly Gly Arg Gln Ser Trp Asn Leu Thr Ala Gly Cys Val Ser Glu Asp
                        725                 730                 735
 35

        Met Cys Ser Pro Asp Pro Cys Phe Asn Gly Gly Thr Cys Leu Val Thr
                        740                 745                 750

 40
        Trp Asn Asp Phe His Cys Thr Cys Pro Ala Asn Phe Thr Gly Pro Thr
                755                 760                 765

 45     Cys Ala Gln Gln Leu Trp Cys Pro Gly Gln Pro Cys Leu Pro Pro Ala
                770                 775                 780

        Thr Cys Glu Glu Val Pro Asp Gly Phe Val Cys Val Ala Glu Ala Thr
 50     785                 790                 795                 800

        Phe Arg Glu Gly Pro Pro Ala Ala Phe Ser Gly His Asn Ala Ser Ser
                        805                 810                 815
 55

        Gly Arg Leu Leu Gly Gly Leu Ser Leu Ala Phe Arg Thr Arg Asp Ser
                        820                 825                 830
```

Glu Ala Trp Leu Leu Arg Ala Ala Ala Gly Ala Leu Glu Gly Val Trp
    835   840   845

5

Leu Ala Val Arg Asn Gly Ser Leu Ala Gly Gly Val Arg Gly Gly His
    850   855   860

10

Gly Leu Pro Gly Ala Val Leu Pro Ile Pro Gly Pro Arg Val Ala Asp
865   870   875   880

15 Gly Ala Trp His Arg Val Arg Leu Ala Met Glu Arg Pro Ala Ala Ala
         885   890   895

Thr Ser Arg Trp Leu Leu Trp Leu Asp Gly Ala Ala Thr Pro Val Ala
20   900   905   910

Leu Arg Gly Leu Ala Ser Asp Leu Gly Phe Leu Gln Gly Pro Gly Ala
    915   920   925

25

Val Arg Ile Leu Leu Ala Glu Asn Phe Thr Gly Cys Leu Gly Arg His
    930   935   940

30

Phe Ala Ser Trp Pro Gly Thr Pro Ala Pro Ile Leu Gly Cys Arg Gly
945   950   955   960

35 Ala Pro Val Cys Ala Pro Ser Pro Cys Leu His Asp Gly Ala Cys Arg
        965   970   975

Asp Leu Phe Asp Ala Phe Ala Cys Ala Cys Gly Pro Gly Trp Glu Gly
40   980   985   990

Pro Arg Cys Glu Ala His Val Asp Pro Cys His Ser Ala Pro Cys Ala
    995   1000   1005

45

Arg Gly Arg Cys His Thr His Pro Asp Gly Arg Phe Glu Cys Arg
    1010   1015   1020

50

Cys Pro Pro Gly Phe Gly Gly Pro Arg Cys Arg Leu Pro Val Pro
    1025   1030   1035

55 Ser Lys Glu Cys Ser Leu Asn Val Thr Cys Leu Asp Gly Ser Pro
      1040   1045   1050

```
      Cys Glu  Gly Gly Ser Pro Ala  Ala Asn Cys Ser Cys  Leu Glu Gly
          1055             1060             1065

  5   Leu Ala  Gly Gln Arg Cys Gln  Val Pro Thr Leu Pro  Cys Glu Ala
          1070             1075             1080

      Asn Pro  Cys Leu Asn Gly Gly  Thr Cys Arg Ala Ala  Gly Gly Val
 10       1085             1090             1095

      Ser Glu  Cys Ile Cys Asn Ala  Arg Phe Ser Gly Gln  Phe Cys Glu
          1100             1105             1110
 15

      Val Ala  Lys Gly Leu Pro Leu  Pro Leu Pro Phe Pro  Leu Leu Glu
          1115             1120             1125
 20
      Val Ala  Val Pro Ala Ala Cys  Ala Cys Leu Leu Leu  Leu Leu Leu
          1130             1135             1140

 25   Gly Leu  Leu Ser Gly Ile Leu  Ala Ala Arg Lys Arg  Arg Gln Ser
          1145             1150             1155

      Glu Gly  Thr Tyr Ser Pro Ser  Gln Gln Glu Val Ala  Gly Ala Arg
 30       1160             1165             1170

      Leu Glu  Met Asp Ser Val Leu  Lys Val Pro Pro Glu  Glu Arg Leu
          1175             1180             1185
 35
      Ile

 40
```